

## Case 3637

***Papilio phoebus* De Prunner, 1798: proposed conservation in its accustomed usage by suppression of *Papilio phoebus* Fabricius, 1793 (Insecta, Lepidoptera, PAPILIONIDAE)**

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**Abstract.** The purpose of this application, under Articles 78.1 and 81.2.1 of the Code, is to conserve a name that has been used mistakenly for a long time for a very well-known Holarctic butterfly species, by suppressing *Papilio phoebus* Fabricius, 1793 and thereby freeing for use *Papilio phoebus* de Prunner, 1798, a junior primary homonym that actually refers to the taxonomic species in question. This course, effectively resulting only in a change in authorship, would make additional name changes unnecessary and thus promote nomenclatural stability.

**Keywords.** Nomenclature; taxonomy; PAPILIONIDAE; PARNASSIINAE; *Parnassius*; *P. phoebus*; *P. ariadne*; *P. corybas*; European ‘Small Apollo’ butterfly; Holarctic.

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1. The European ‘Small Apollo’ butterfly was long known as *Parnassius delius* (originally *Papilio delius* Esper, [1804], p. 114; pl. 115, fig. 5), a taxon described from the Alps, ‘in der Nähe von Genev’ [in the vicinity of Geneva] (see Staudinger, 1861, p. 14; 1871, p. 2). Godart ([1819], p. 80) was the first to suggest that *Papilio phoebus* (Fabricius, 1793, p. 181), described from ‘Sibiria’, [sic] and *P. delius* Esper were conspecific. Kirby (1871, p. 511) also thought so, with the result that Esper’s name was used for a time to identify the European ‘subspecies’, as *Parnassius phoebus delius* (Esper, [1804]) (see Butler, 1870, p. 233; Kirby, 1871, p. 511). *Papilio delius* Esper, [1804], however, is a junior primary homonym of *Papilio delius* Drury, [1782] (vol. 3, p. [77] (name in index) and p. 18 (description), pl. 14, figs. 5, 6; currently *Antanartia delius*). The date of publication of Esper’s book was established by Heppner (1981, 1982), while that of Drury’s was fixed by the International Commission on Zoological Nomenclature in Opinion 474 (Opinions and Declarations **16**: 297–306; July 1957). The homonymy between Esper’s and Drury’s names was soon resolved by Stichel (1906, p. 86), who proposed the name *Parnassius phoebus sacerdos* to replace *Papilio delius* Esper, [1804].

2. The name *Papilio phoebus* Fabricius, 1793 itself has, until recently, been applied to a wrong species. As Hanus & Theye (2010) correctly observed, Fabricius made unequivocal reference to the watercolours painted by William Jones (i.e. ‘Papilio

Phoebus Jon. fig. pict. 2. tab. 2. fig. 2'). Under Article 72.5.6 of the Code, these pictures are deemed to be representations of the dorsal and ventral surfaces of the holotype (or two syntypes?) of *P. phoebus*, which Fabricius said was preserved, at the time, in the 'Mus.[eum] Dom.[ini] Drury'. Drury apparently never figured this specimen independently and his collection has been lost. No other possibly original Fabricius's specimen is extant in either the Natural History Museum in London or the Natural History Museum of Denmark (see Zimsen, 1964, p. 560, and Kristensen & Karsholt, 2008). A neotype was designated by Hanus & Theye (2011). It is worth noting that, although the watercolours comprising Jones' 'Icones' were apparently painted between ca. 1780 and ca. 1790 (see Vane-Wright, 2010), i.e. at a time antedating Fabricius's description of his *Papilio phoebus*, they were not then printed or published. As a result, the apparently uninominal name 'Phaebus' [sic!] attributed to Fabricius on the plate has no status in nomenclature (Articles 8.1, 8.4, and 9.12), and the description given on the plate ('*Alis rotundatis integerrimis concoloribus albis nigro maculatis: posticis maculis tribus rufis*') may be a later addition copied verbatim from Fabricius's (1793) description of *Papilio phoebus*. When Jones's watercolours were inspected by Hanus & Theye (2010), it became apparent that they did not depict the species generally known as *Parnassius phoebus*, but instead represented a specimen of what is commonly known as *Parnassius ariadne* Lederer, 1853 (p. 354), a species inhabiting the southwestern foothills of the Altai Mountains Hemming (1934, p. 198) reviewed the nomenclatural history of this latter taxon.

3. Most authors have overlooked the fact that the name *Papilio phoebus* was independently published twice, the first time by Fabricius in 1793 as recounted above, and later on by de Prunner (1798, p. 69), in a book dealing with the Lepidoptera of the South Western Alps and the surroundings of Nice, in which this author provided a detailed (for the times) description. Esper (1800, p. 102, footnote) did notice the homonymy but he regarded de Prunner's *phoebus* as merely a variety ('Abänderung') of *P. apollo* Linnaeus, 1758.

We reproduce here for clarity de Prunner's original description, together with an English translation provided to clarify a couple of peculiarities inherent to this author's Latin.

'E.[ques] H.[eliconius] Pap.[ilio] Phoebus

*Antennis albe, nigre catenatis; alis oblongis integerrime flave-albis: primoribus intus extusque ocellis coccineis nigro circulo circumdatis, ac prope corpus quatuor, duobus similibus solitariis longitudine alarum; posterioribus intus extusque nigris transversis maculis, extus vermiculato ocello prope marginem exteriorem.*

*In fine Varaitanae vallis non tam rarus: invenitur in monte Verz mense Junii.'*

i.e.

'*Antennae white-and-black ringed; wings elongate, completely yellowish-white; the first (i.e. the hind wings) inside and outside with scarlet ocelli, [each] surrounded by a black ring, and near the body four [ocelli], two [of which] similar to isolated [ocelli] for the whole length of the [wing] basis; the second (i.e. the fore wings) inside and outside with transverse black spots, outside with a vermillion eye-spot by the outer margin.*

*At the end of the Varaita Valley, not very rare: it is found on Mount Verz in the month of June.'* (Translation by S. Cecchin).

It should be noted that de Prunner's description was published as part of an appendix to 'Sectio Prima, Papiliones' of his work, which appendix included 30 species not listed in the main text. Eight of them were clearly attributed to previous authors, while the remaining 22, including *Pap. phoebus*, bore no such attribution. This does not unequivocally prove that the latter were meant to represent new species group names, but most of them have since been treated as such in the following literature, where they have been regarded as either junior synonyms of other names, junior primary homonyms for which replacement names have been created, or valid species or subspecies. *Pap. phoebus* represents the only exception; even though it shares all the characteristics of de Prunner's other new species group names, it was rarely recognised as such. Another reason may be that the taxon it represents is indeed very close to, and has been considered conspecific with, Fabricius's *Papilio phoebus*. It is to be remembered, however, that in ancient Greek (and later Latin) mythology, Phoebus was one of the alternative appellations of Apollo, so that it may have seemed logical to more than one author that a species rather recalling *P. apollo* in its external habit should be named *P. phoebus*. In other words it is possible that the two taxa bear the same name by mere coincidence.

4. Evidence of de Prunner's taxon being regarded as distinct can be traced as follows. Hübner, [1804] (pl. 110, figs. 567, 568, no text) depicted as [*Papilio*] *phoebus* specimens obviously belonging to the European taxon, as is shown by their clearly annulated antennae and the basal red spots on the ventral surface of the hind wings. Godart (1819, p. 80) was apparently the first to observe that Fabricius's *Pap. phoebus* from Siberia was probably a different species than that depicted by Hübner. He attributed [*Pap.*] *phoebus* to Hübner (as first figuring author) and (irrespective of its earlier publication date) listed de Prunner's *Pap. phoebus* among its synonyms, together with *Pap. delius*. Later, Kirby (1871, p. 511, perhaps following Esper) dubiously listed *Pap. phoebus* de Prunner in the synonymy of *Pap. apollo*, therefore not under *Pap. phoebus* Fabricius, but he included *Pap. delius* in the synonymy of the latter. Sherborn (1902, p. 744) separately listed 'phoebus Papilio, J.C. Fabricius, Ent. Syst., III (1) 1793, 181' and 'phoebus Papilio, L. Prunner, Lep. Pedemont. 1798, 69'. Among de Prunner's (1798) names for other new species of *Papilio*, Sherborn (1902) included all the new names apart from *Papilio polidamas* de Prunner, 1798; *Pap. glandon* de Prunner, 1798; *Pap. pluto* de Prunner, 1798; *Pap. xylostei* (also spelled 'xilostei') de Prunner, 1798 and *Pap. medon* de Prunner, 1798; while also including some misspellings and misquotations. Sherborn's authority, together with the foregoing, supports our interpretation of de Prunner's name *Papilio phoebus* as having been published independently of Fabricius's *Pap. phoebus*.

5. Among the several available species-group names proposed to identify Asiatic species of the *Parnassius phoebus* complex, the second most senior after Fabricius's is *Parnassius corybas* Fischer de Waldheim, 1823 (pl. 6, figs. 1, 2), described from Kamchatka [the plates were issued in 1823, the text after November 1824 – see Sherborn (1922)]. It is likely that *P. phoebus* var. *intermedia* [Ménétriés] in Siemaschko (1850, caption to pl. 4, fig. 1) is synonymous with *P. phoebus phoebus*, part of the material being topotypic, having been collected in the Altai according to Ménétriés's (1855, p. 72) detailed description of the former, now raised to full species rank (see also Nekrutenko & Kerzhner, 1986). Hemming's (1934, p. 198) analysis of the 1850 publication was mistaken. Most recently, Hanus & Theye (2010) considered

*Parnassius phoebus intermedius* [Ménétriés], 1850 a junior synonym of *P. phoebus corybas* Fischer de Waldheim, 1823.

7. As a consequence of the circumstances described in paras. 2 and 4, and as already discussed in depth by Hanus & Theye (2011, 2013), under the Code the widespread species traditionally known as *Parnassius phoebus* must be renamed as *P. corybas* Fischer de Waldheim, 1823, while the Altai species traditionally known as *Parnassius ariadne* should now be called *P. phoebus*. The likelihood of taxonomic confusion is actually much greater, because *P. phoebus* as traditionally conceived is considered to include at least one subspecies in Europe, a minimum of around eight in Asia (Siberia) and at least two in North America, not to mention the 42 subspecies recognized by Eisner (1976). The names used to identify all these taxa would have to switch to as many new combinations, under *P. corybas*. All this confusion can be avoided by suppressing *Papilio phoebus* Fabricius, 1793, thus (1) allowing *Parnassius ariadne* (Lederer, 1853) to continue in use for the Altai species, and (2) raising *Papilio phoebus* de Prunner, 1798 from permanent invalidity, thereby making it available for the species of *Parnassius* traditionally referred to by this name. In effect, only the authorship of *Parnassius phoebus* will change, not the generally accepted application of the name.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the specific name *phoebus* Fabricius, 1793, as published in the binomen *Papilio phoebus*, for the purposes of both the Principle of Priority and the Principle of Homonymy;
- (2) to place on the Official List of Specific Names in Zoology the name *phoebus* de Prunner, 1798, as published in the binomen *Papilio phoebus*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *phoebus* Fabricius, 1793, as published in the binomen *Papilio phoebus* and as suppressed in (1) above.

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